

## WHAT IS CLAIMED IS:

1. A camera comprising:
  - a left lens system;
  - a right lens system;
  - a light sensor array;
  - a micro-lens array for focusing light from the left lens system to a first portion of the light sensor array and for focusing light from the right lens system to a second portion of the light sensor array; and
  - a means for moving the micro-lens array such that light from the left lens system is focused on the second portion of the light sensor array and light from the right lens system is focused on the first portion of the light sensor array.
2. The camera recited in claim 1 wherein the micro-lens array is a lenticular array including cylindrical lenses.
3. The camera recited in claim 1 wherein the moving means comprises piezoelectric material.
4. A camera comprising:
  - a left lens system;
  - a right lens system;
  - a light sensor array;
  - a polarizing beam splitter (PBS) for combining light from the left lens system and light from the right lens system; and
  - polarization filter for selecting between light from the left lens system and light from the right

lens system.

5. The camera recited in claim 4 further comprising a sensor array to capture the selected light.
6. The camera recited in claim 4 wherein the polarization filter is a liquid crystal window.
7. The camera recited in claim 6 further comprising a control unit for causing the polarization filter to select between light from the left lens system and light from the right lens system.
8. A camera comprising:
  - a left lens system;
  - a right lens system;
  - a polarizing beam splitter (PBS) for combining light from the left lens system and light from the right lens system; and
  - a light sensor array having polarized filter allowing one half of sensors of the light sensor array to capture light from the left lens system and the other half of sensors of the light sensor array to capture light from the right lens system.
9. A method of capturing a left image and a right image of a scene, the method comprising:
  - focusing light from a left lens system on a sensor array;
  - capturing, using the sensor array, the left image at a first instant in time;
  - focusing light from a right lens system on the sensor array; and
  - capturing, using the sensor array, the right

image at a second instant in time using the sensor array.

10. The method of claim 9 wherein the left light is focused on the sensor array by a micro-lens array.
11. A method of capturing a left image and a right image of a scene, the method comprising:
  - directing left polarized light from a left lens system on a sensor array, the light polarized in a first direction;
  - directing right polarized light from a right lens system on a sensor array, the light polarized in a second direction, orthogonal to the first direction;
  - selecting the left polarized light to capture the left image using a sensor array; and
  - selecting the right polarized light to capture the right image using the sensor array.
12. The method recited in claim 11 wherein a switchable polarization filter selects the left polarized light.
13. The method recited in claim 11 further comprising combining the left polarized light and the right polarized light.
14. The method recited in claim 13 wherein a polarized beam splitter (PBS) combines the left polarized light and the right polarized light.